



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

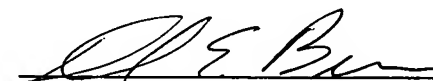
REPLY BRIEF FOR THE APPELLANT

Ex parte Tuomo LEHTONEN

CAPACITIVE ACCELERATION SENSOR

Serial No. 10/744,695
Appeal No.: Unknown
Group Art Unit: 2856

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David E. Brown
Attorney for Appellant(s)
Reg. No. 51,091

SQUIRE, SANDERS & DEMPSEY LLP
8000 Towers Crescent Drive, 14th Floor
Tysons Corner, VA 22182-2700

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In re the Appellant:

Tuomo LEHTONEN

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Filed: February 10, 2004

Examiner: Kwok, Helen C.

For: CAPACITIVE ACCELERATION SENSOR

REPLY BRIEF

June 26, 2007

I. INTRODUCTION

This Reply Brief is filed in response to the Examiner's Answer dated March 27, 2007. Claims 1, 3-11 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 6,000,287 to Menzel. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being obvious over US Patent No. 6,000,287 to Menzel, in view of US Patent No. 5,831,164 to Reddi et al. (Reddi).

II. REPLY TO EXAMINER'S ANSWER

The Examiner's Answer maintained the position that Menzel disclosed the feature that the capacitance change between the movable electrode on rotational portion and the plate function is enhanced by means of the shape of the electrodes, as recited in claim 1. Further, the Examiner's Answer on page 5, third paragraph, raised the issue that the term "shape" is not defined in the specification. Applicant respectfully disagrees.

As discussed in Applicant's Appeal Brief, a feature of the present invention is that

the shape of the electrodes enhances the sensitivity of the sensor. The differences between shape of the electrodes of a sensor as well as the effects of each on the sensitivity of the sensor are further illustrated in Figure 5 of the present application. As shown in Fig. 5, curve 13 depicts the best possible change, expressed in percentages, in the capacitance of an ordinary pair of electrodes with surfaces of rectangular shape, such as that described in Menzel (see paragraph [0054] of the present specification). Thus, using the re-dimensioning methods such that described in Menzel, the sensitivity of a rectangular shaped sensor can be adjusted below curve 13, or at most on curve 13. This level of sensitivity is inferior to the sensitivity of a pair of electrodes in the triangle shape. This increased sensitivity is shown as curve 14 of Figure 5 of the present invention and described in paragraph [0055] of the present invention. Thus, Applicant's application clearly recognizes and discusses the difference between the effects on sensitivity of an electrode due to a change in shape as opposed to a mere change in size. Thus, this feature is neither disclosed nor suggested in Menzel.

Furthermore, as stated in [0001] of the present specification, an object of the present invention is to provide an improved sensor structure, which enables reliable and efficient measuring of acceleration, in particular in small capacitive acceleration sensor designs. Therefore, in solving the problem on bringing about efficient measuring in small capacitive acceleration sensor designs, one skilled in the art would not rely on the teachings of Menzel to achieve the aforementioned objectives. Merely stretching the size of the electrode as in Menzel does not bring about the desired benefits or technical effects. Further, the resulting sensor would be too big and would, as a result, take up too much space. The teachings of Menzel are not suitable in small capacitive acceleration

sensor designs.

As discussed in Applicant's Appeal Brief that was filed on July 12, 2006, Menzel describes that the length (i.e. size) of the stationary electrode is adjusted in order to determine the desired sensitivity. Further, Menzel only discloses rectangular-shaped electrodes, see column 1 line 66 – column 2 line 8.

The portions of Menzel cited in the Examiner's Answer further evidence that Menzel is directed to changing size rather than shape, to enhance sensitivity. For example, column 2 lines 2-4 states that "changing the stationary electrode center of area relative to the movable electrode includes changing the stationary electrode length."

The Examiner's Answer further cites Figures 5 and 6 and column 5 lines 26-53 which illustrate and describes that the surface area (i.e. length) of the stationary electrode is altered to obtain the desired sensitivity for the acceleration sensor. Therefore, as discussed above, Menzel does not contemplate a change in the shape of the electrode in order to enhance sensitivity.

Further, with regards to Reddi, Applicants submit that although Reddi states that "any shape of the bar 10 (and the hinge 27) may be used", the term "bar" in itself brings about a further limitation. Reddi does not disclose any other shapes of the "the flat bar 10 acting as a proof mass."

The Examiner's Answer argued that "shape" is not clearly defined. Applicant respectfully disagrees.

MPEP 2106 states "Office personnel must rely on the applicant's disclosure to properly determine the meaning of the claims. Markman v. Westview Instruments, 52 F.3d 967,980,34 USPQ2d 1321, 1330 (Fed. Cir.)(en banc), aff'd, U.S., 116 S. Ct. 1384

(1996). Claim terms are presumed to have the ordinary and customary meanings attributed to them by those of ordinary skill in the art. Sunrace Roots Enter. Co. v. SRAM Corp., 336 F.3d 1298, 1302, 67 USPQ2d 1438, 1441 (Fed. Cir. 2003); Brookhill-Wilk LLC v. Intuitive Surgical, Inc., 334 F.3d 1294, 1298, 67 USPQ2d 1132, 1136 (Fed. Cir. 2003)(“In the absence of an express intent to impart a novel meaning to the claim terms, the words are presumed to take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art.”).’ However, in the present rejection, the meaning of “shape” is being essentially ignored, because the Office Action’s position makes the term meaningless.

MPEP 2111.01 states that the words of the claim must be given their plain meaning unless such meaning is inconsistent with the specification. “Plain Meaning refers to the ordinary and customary meaning given to the term by those of ordinary skill in the art.” Phillips v. AWH Corp., 415 F.3d 1303, 1313, 75 USPQ2d 1321, 1326 (Fed. Cir. 2005).

In the present case, according to “Webster’s II New College Dictionary” the word “shape” means “characteristic surface configuration: Form.” The word “size” means “physical portions or dimensions, magnitude, or extent.” In other words, the plain meaning of the words “shape” verses “size” contemplate form verses dimension, respectively. Thus, given the plain meaning of the term “shape”, Applicant submits that this term is clearly defined in the present specification.

Further, Applicant submits that the term “shape” is not used in a manner that is inconsistent in the present specification, or with the plain meaning of this term. For example, the present specification and the present claims both describe and claim

electrodes in various shapes such as hammer, tear-drop etc. These terms are directed to the form of the electrode rather than the mere re-dimensioning of the electrode. As such, the Examiner's Answer's interpretation of "size" to include "shape" is unreasonably broad because in the present application, neither the ordinary use, nor the common meaning of the term "shape", is the same as "size" and the present application clearly differentiates between the two terms.

The Examiner's Answer on page 6 stated that with respect to claims 3-11 and 15-17 that the appellant has not provided separate arguments traversing the final rejection of any of claims 3-11 and 15-17 and therefore, these claims are assumed to stand or fall with the rejection of claim 1. Applicant respectfully disagrees.

Beginning on pages 8-10, Applicant's Appeal Brief separately argues the patentability of each of claims 3-11 and 15-17. Therefore, these claims do not stand or fall with the rejection of claim 1.

III. CONCLUSION

As discussed above and in Applicant's Appeal Brief, Applicant submits that the cited references fail to disclose or suggest all of the features of any of the pending claims. More specifically, the cited reference fails to disclose or suggest the feature that the capacitance change between the movable electrode on rotational portion and the plate function is enhanced by means of the shape of the electrodes, as recited in claim 1.

For all of the above noted reasons, it is strongly contended that certain clear differences exist between the present invention as claimed in claims 1 and 3-17 and the prior art relied upon by the Examiner. It is further contended that these differences are

more than sufficient that the present invention would not have been obvious to a person having ordinary skill in the art at the time the invention was made.

This final rejection being in error, therefore, Appellant respectfully requests that this honorable Board of Patent Appeals and Interferences reverse the Examiner's decision in this case and indicate the allowability of application claims 1 and 3-17.

In the event that this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees which may be due with respect to this paper may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

SQUIRE, SANDERS & DEMPSEY LLP



David E. Brown
Attorney for Applicant(s)
Registration No. 51,091

Atty. Docket No.: 59244.00008

8000 Towers Crescent Drive, 14th Floor
Tysons Corner, VA 22182-2700
Tel: (703) 720-7800
Fax (703) 720-7802

DEB:jkm